NWS Form E-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE **MONTHLY REPORT OF HYDROLOGIC CONDITIONS**	**HYDROLOGIC SERVICE AREA:** Pocatello, Idaho (PIH) **REPORT FOR:** **MONTH:** August **YEAR:** 2016
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	**SIGNATURE** Corey Loveland Service Hydrologist **DATE:** September 12, 2016
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924).	

X **An X in this box indicates that *no* flooding has occurred for the month within this hydrologic service area.**

Overview:

Two words for August: hot and dry! This was the story across the Hydrologic Service Area (HSA); particularly dry over the south central area, with mostly 0.0 to 0.1 across most of the HSA. The Henrys Fork and Teton basin area faired the best with a quarter to one inch of rain over the month. Mostly below 10 percent of normal precipitation fell across the HSA. Temperature departures from normal for August show that across the HSA, we ranged near normal, mostly negative one to positive one degree F near normal. Mean average temperatures ranged from 52 to 72 degrees F across the HSA. All river basins remain near normal for water year-to-date precipitation thus far.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the forecast of 40 to 50 percent above normal temperatures across the HSA and a 40 to 50 percent chance of below normal precipitation across Idaho. The one-month forecast graphics are found below. For the three-month outlook, the temperature is forecast to be warmer than normal across the West; with a 40 to 50 percent chance of above normal temperatures over Idaho. As for three-month outlook for precipitation; the outlook is for near normal precipitation across southern Idaho.

Of the data available for the month, the station within the HSA reaching the highest 24-hour temperature was the Minidoka Dam COOP station reaching 101°F on the 31st. The station (non-SNOTEL and non-RAWS) with the lowest recorded temperature was the Stanley COOP station at 19°F on August 23rd. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the American Falls CoCoRaHS station where 1.00 inch fell on the 7th. The highest recorded precipitation total (non-SNOTEL) occurred at both the American Falls and Lava Hot Springs stations where 1.00 total inches was recorded for the month at each site. The Somsen Ranch SNOTEL recorded 2.00 inches of total precipitation for the month. The basins receiving the greatest precipitation were the Black foot and the Willow basins receiving 150% and 82% of average precipitation respectively for the month of August-based on SNOTEL data.

Reservoirs last month decreased capacity overall by around 14% in the upper Snake River basin system (a decrease of about 565 KAF occurred over the month and is currently sitting at 26% of capacity overall). Compared to last year at this time, it was about 37% of capacity. According to the Natural Resources Conservation Service and U.S. Bureau of Reclamation reservoir data, the most notable increase in storage capacity was the Palisades, Little Wood and Magic reservoirs decreasing percent capacity by 27% and 26% for

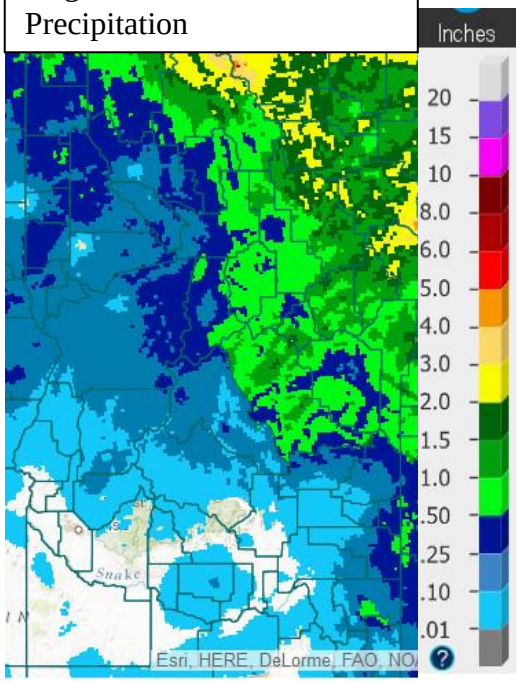
the latter two respectively. Lake Walcott gained inflow by 6% of capacity. Mackay reservoir is currently at 148% of average and Little Wood is at 116% of average with us turning to fall.

Current streamflow conditions in eastern Idaho are mostly near to below normal for monthly streamflows for the majority of the unregulated streams (see graphic below).

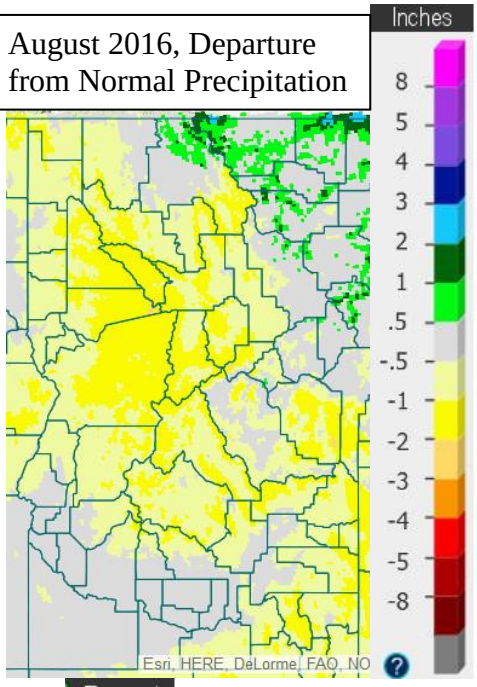
Conditions across eastern Idaho have continued to dry out with the little to no rain we have received over the summer. This is reflected on the latest Drought Monitor update where both Abnormally Dry and Moderate Drought conditions have expanded in the Snake basin and in the Bear basin. Currently, about 89 percent of the state is in Abnormally Dry drought status with about 10% of the state in Moderate Drought. The latest U.S. Seasonal Drought Outlook continues to show a clear forecast of no drought conditions forecast within the HSA.

Precipitation:

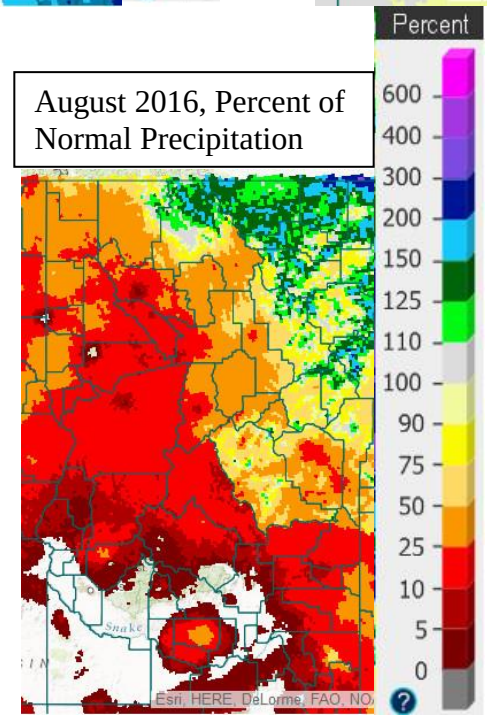
August 2016, Observed Precipitation



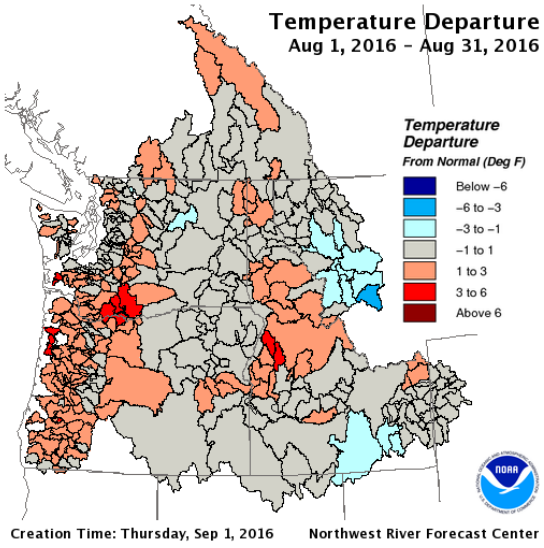
August 2016, Departure from Normal Precipitation



August 2016, Percent of Normal Precipitation



water.weather.gov/precip/#



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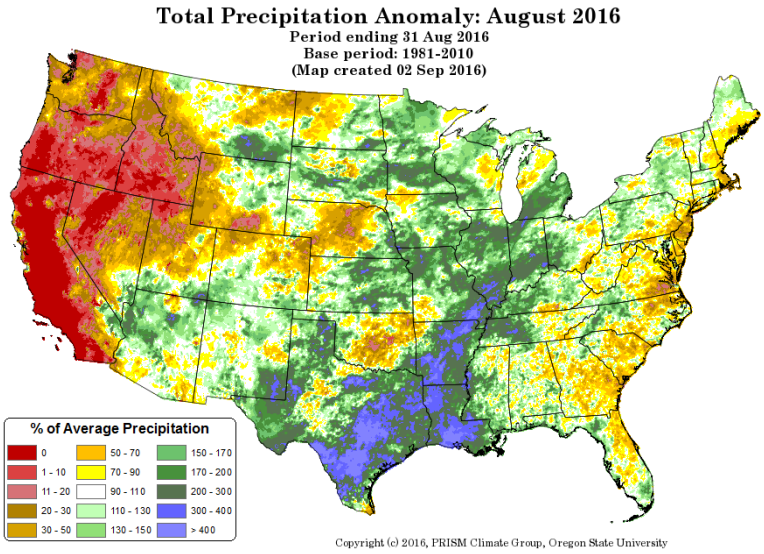
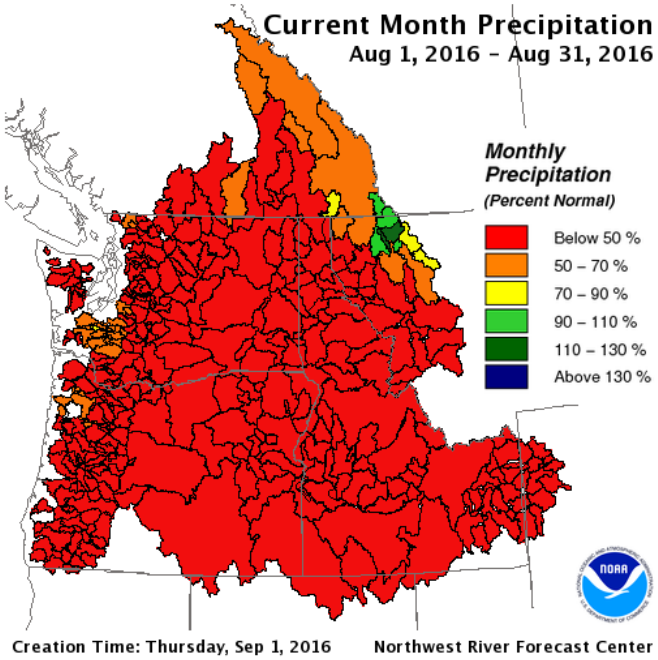


prism.oregonstate.edu/



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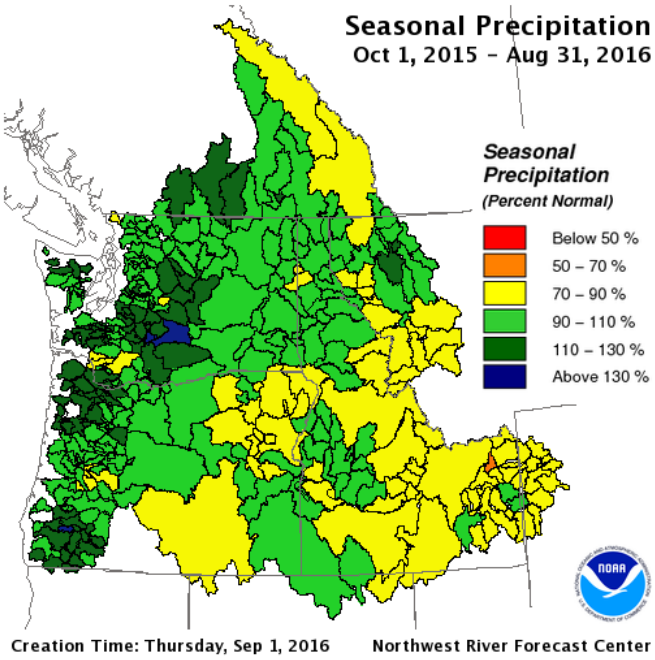

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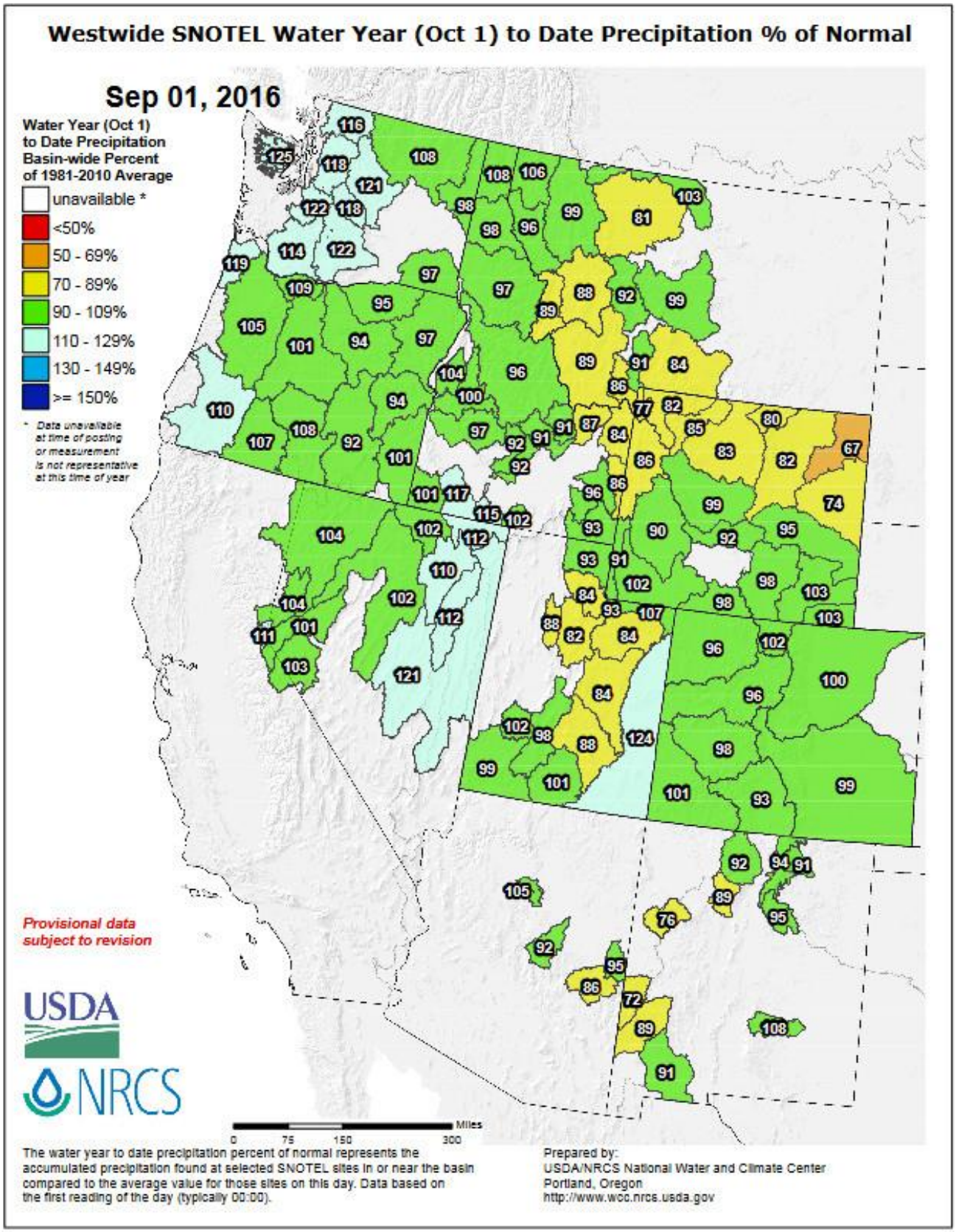
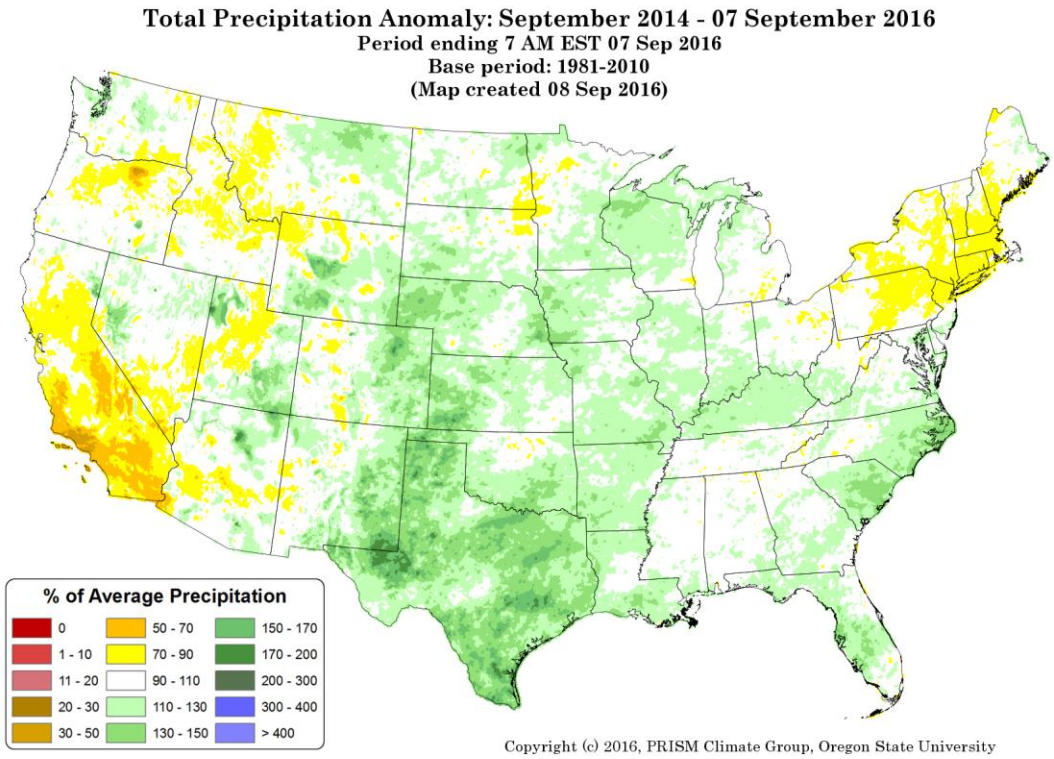
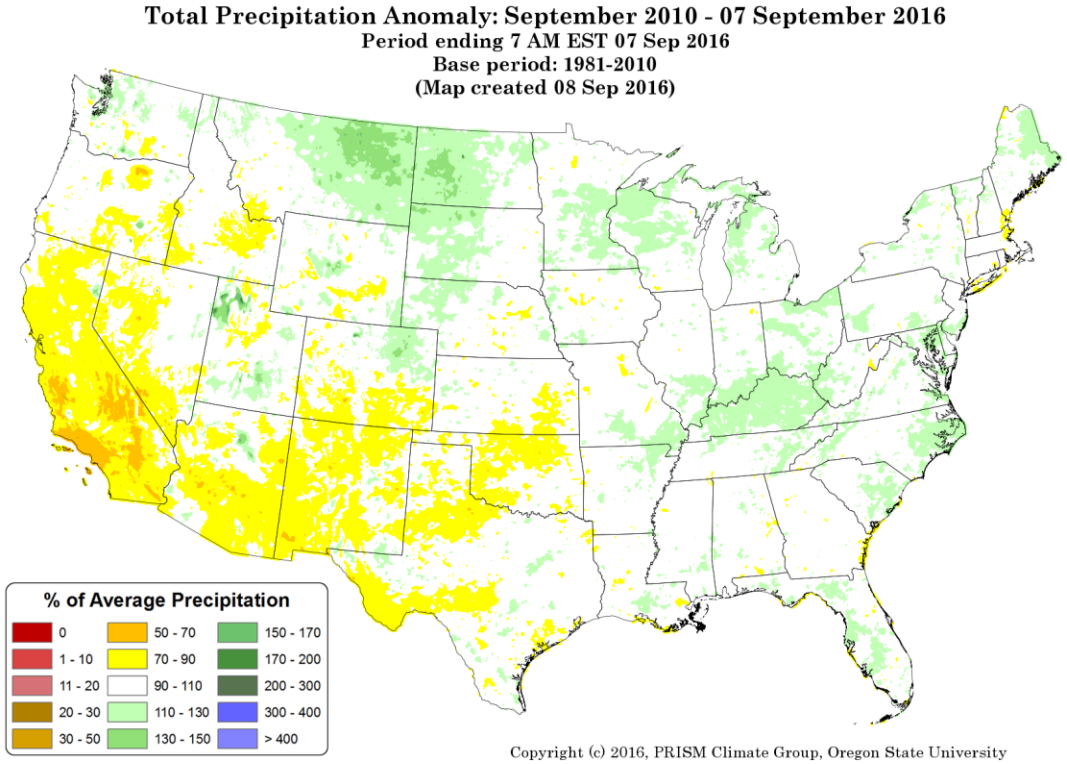


wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf

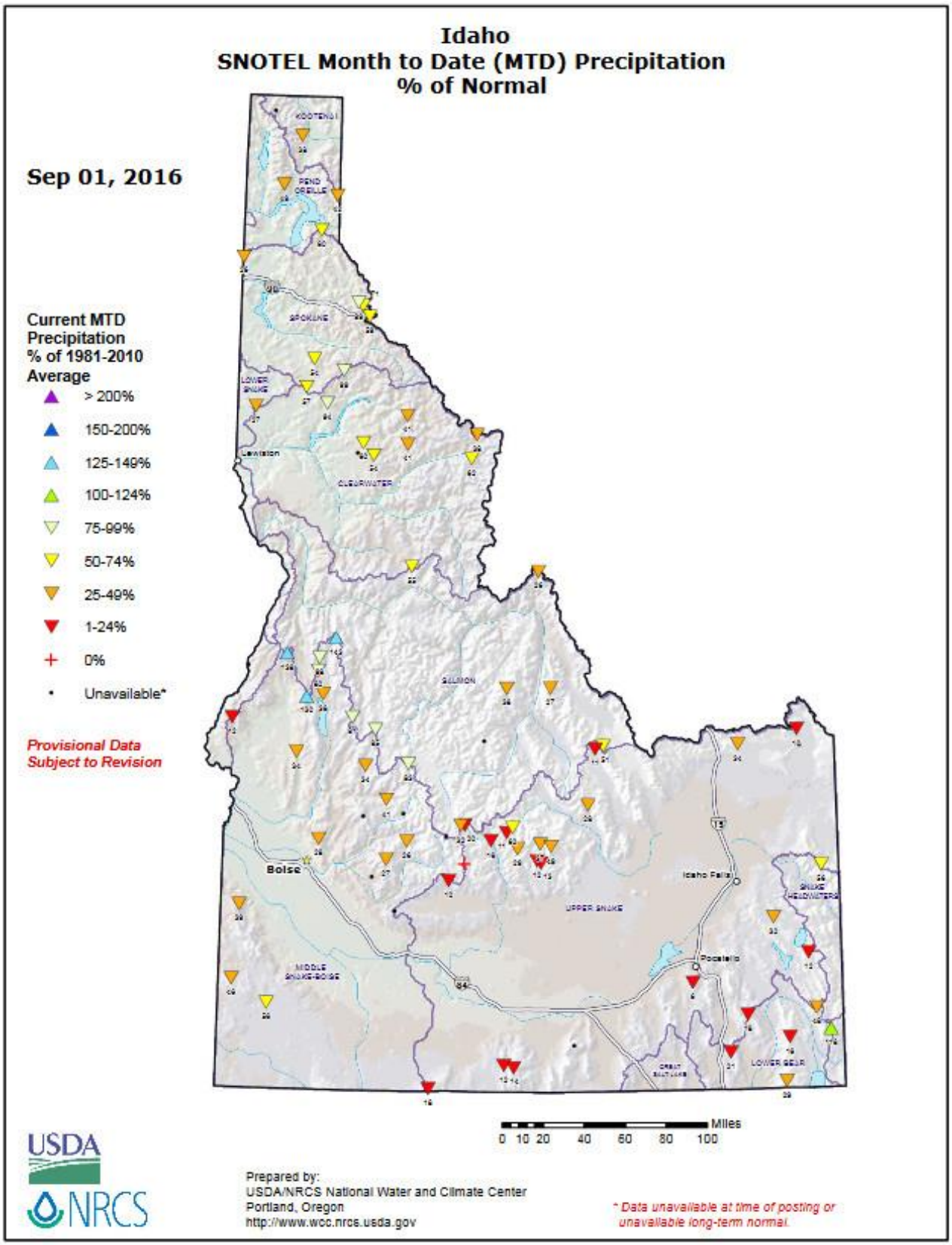
Past 2 Years of Precipitation % of Average:



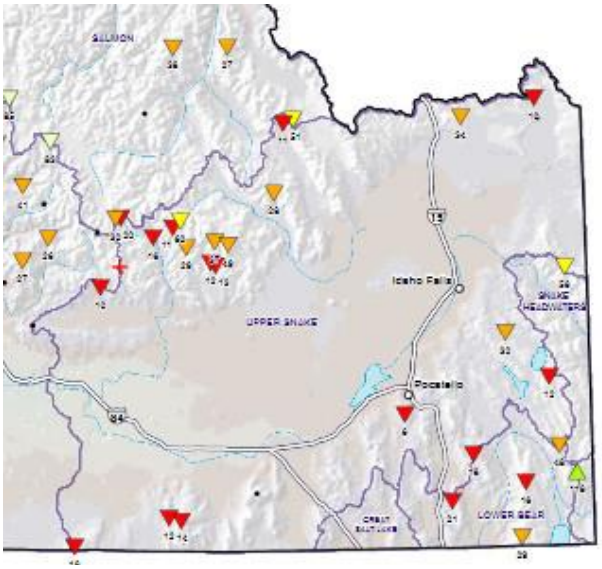
Past 6 Years of Precipitation % of Average:



prism.oregonstate.edu/comparisons/drought.php

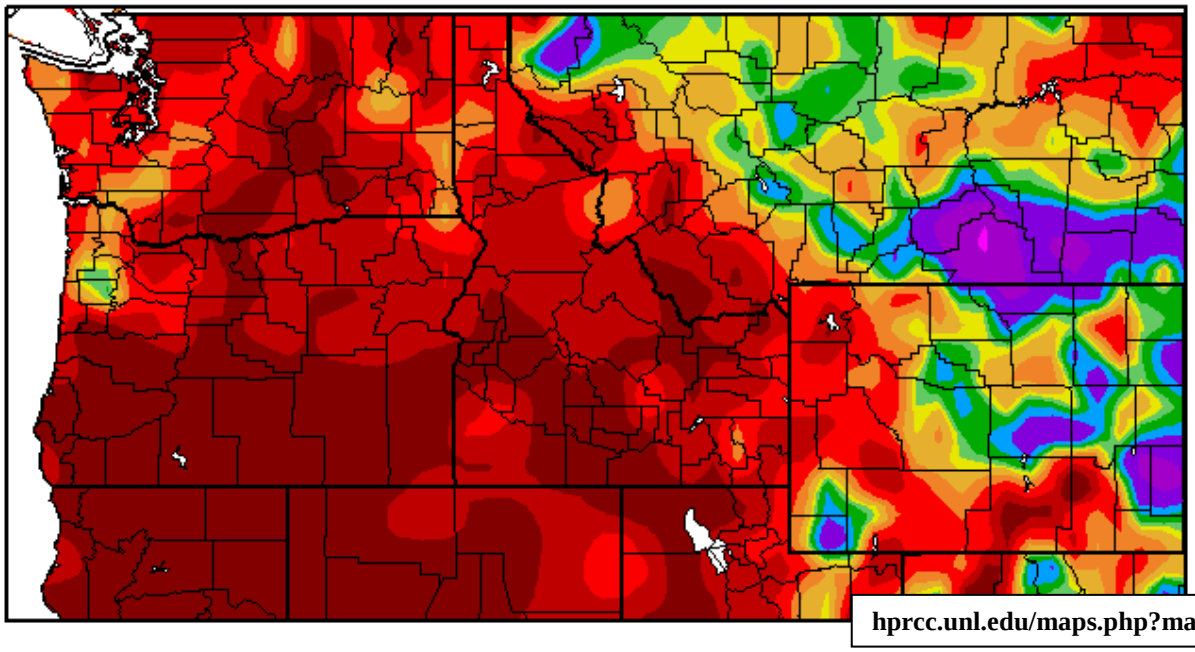


wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecpctnormal.pdf



SNOTEL MTD % of Normal Precipitation for end of August 2016
(image is cropped from above image)

Percent of Normal Precipitation (%)
8/1/2016 – 8/31/2016



hprcc.unl.edu/maps.php?map=ACISClimateMaps

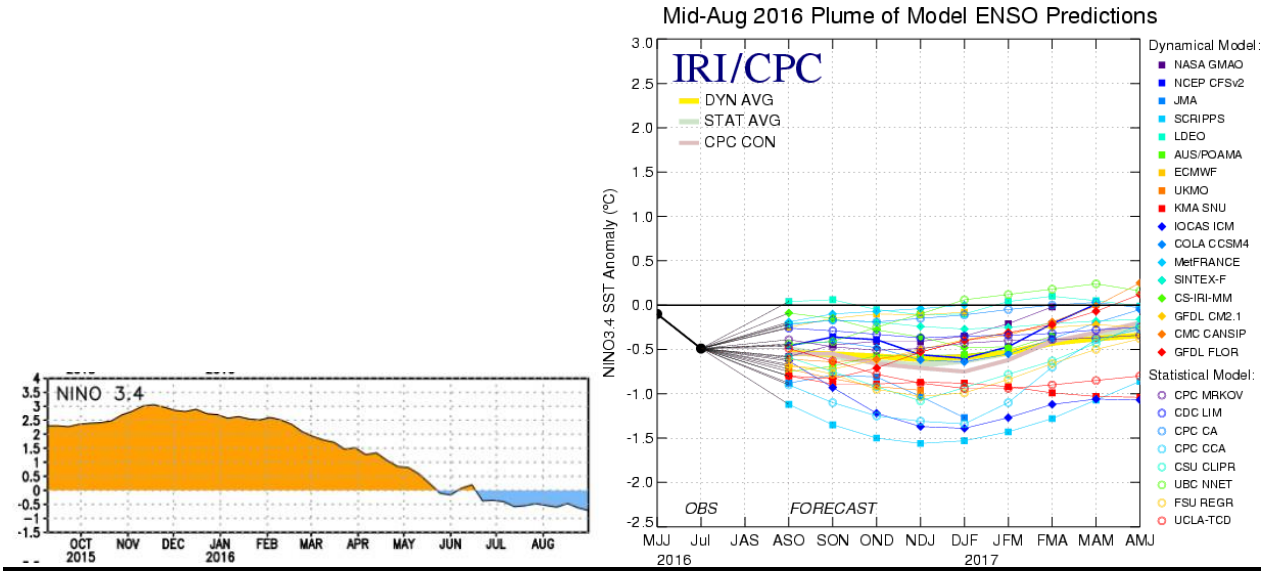
5 25 50 70 90 100 110 130 150 200 300

Generated 9/5/2016 at HPRCC using provisional data. Regional Climate Centers

August was very warm and really dry across the Pacific Northwest. This includes all of Idaho and in our HSA especially in the south central area. Along the ID-MT border and the Bear basin were very dry as well. All areas received 50% and below precipitation for the month. MT and WY did fairly well by having some decent rainfall.

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ -0.7 Deg C



cpc.ncep.noaa.gov, iri.columbia.edu/climate/ENSO *and* cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.pdf

CPC Synopsis: ENSO-neutral conditions present. La Niña conditions are slightly favored to develop during August – October with a 55 - 60% chance of La Niña during this fall and winter.

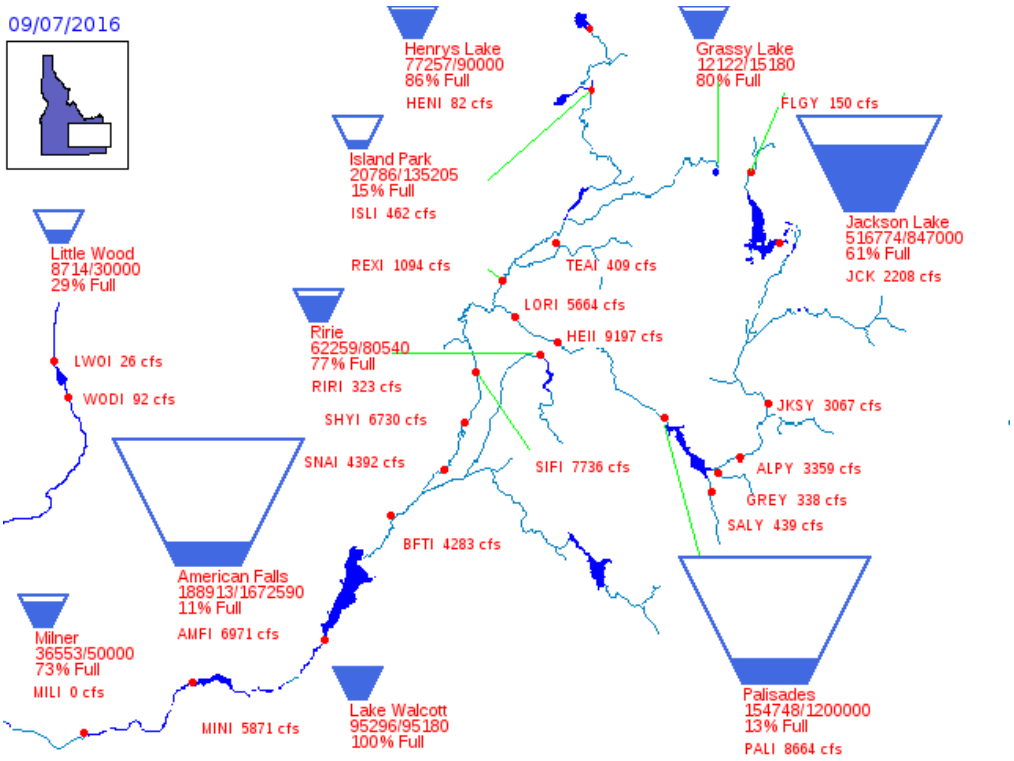
Note: Equatorial sea surface temperature (SSTs) are near or below average in the east-central and eastern equatorial Pacific Ocean. MJO signal continues to be weak. The Pacific Decadal Oscillation (PDO) is currently positive.

Reservoirs:

Reservoir	% Capacity July 31[1]	% Capacity August 31[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Jackson Lake	79	64	-15	102	121
Palisades	57	30	-27	50	90
Henrys Lake	93	87	-6	102	102
Island Park	36	17	-19	35	63
Grassy Lake	80	80	0	101	101
Ririe	94	83	-11	114	96
Blackfoot	65	56	-9	112	98
American Falls	31	14	-17	41	46
Mackay	65	35	-20	148	107
Little Wood	59	33	-26	116	10
Magic	65	39	-26	109	17
Oakley	24	16	-8	65	57
Bear Lake	43	35	-8	73	82
Lake Walcott	94[3]	100[4]	6	n/a	n/a
Milner	76[3]	73[4]	-3	n/a	n/a

Source: (1) NRCS July 31, 2016; (2) NRCS August 31, 2016.
(3) US Bureau of Reclamation (BOR) August 14, 2016 (4) BOR September 7, 2016

wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_9_2016.pdf

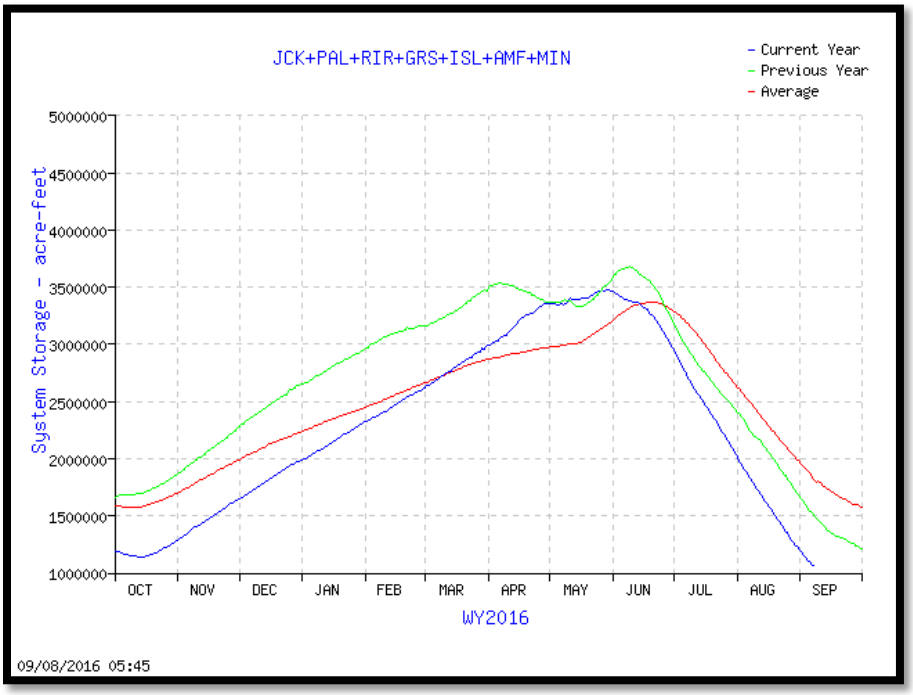


26% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

usbr.gov/pn/hydromet/burtea.html

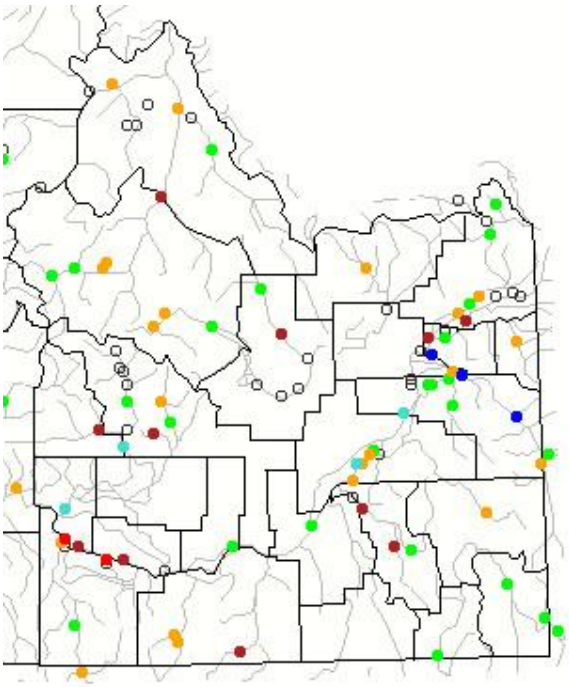
Upper Snake River:
Total Space Available: 2,994,797 AF
Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage



usbr.gov/pn-bin/graphwy2.pl?snasys_af

Streamflow:



Monthly average streamflow compared to historical average streamflow for August 2016.

USGS

waterwatch.usgs.gov/?m=mv01d&r=id&w=map

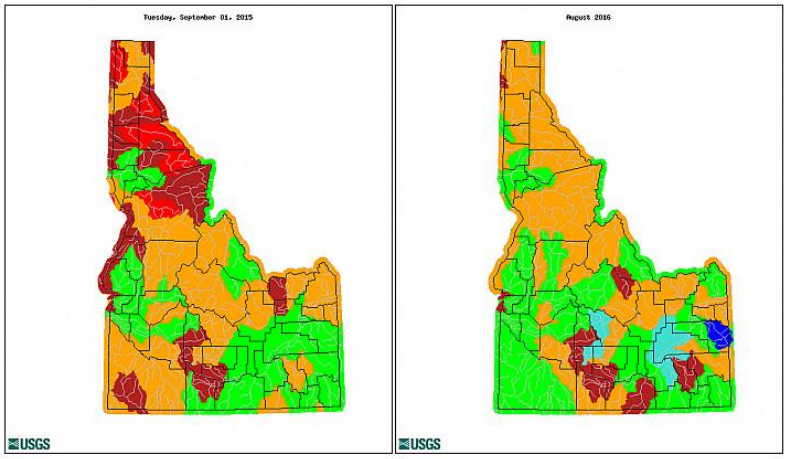
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

Comparison of Streamflow Maps

Geographic area: Idaho | Water resource region: | GO

Map type: Monthly Streamflow (month of year) | Sub type: HUC Streamflow Map

Date (YYYYMM): 201508 Date (YYYYMM): 201608

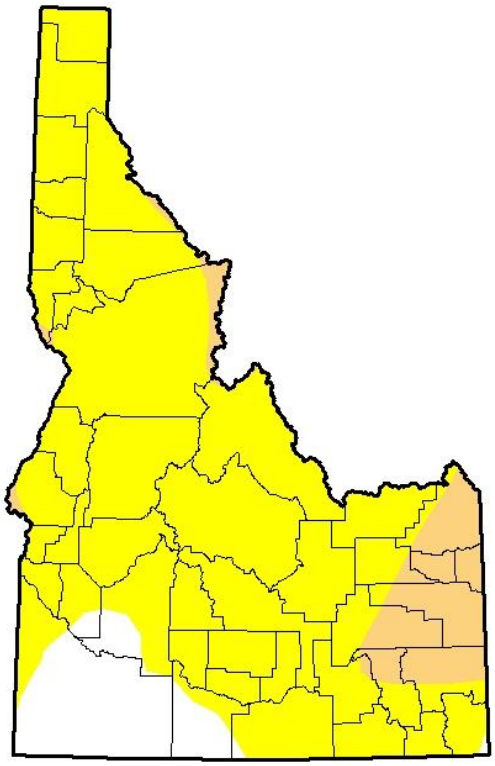


Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	No Data

waterwatch.usgs.gov/index.php

Drought:

U.S. Drought Monitor
Idaho



September 6, 2016

(Released Thursday, Sep. 8, 2016)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	10.77	89.23	10.23	0.02	0.00	0.00
Last Week 8/30/2016	17.11	82.89	7.45	0.02	0.00	0.00
3 Months Ago 6/7/2016	86.12	13.88	0.00	0.00	0.00	0.00
Start of Calendar Year 12/29/2015	10.98	89.02	64.05	24.35	1.18	0.00
Start of Water Year 9/29/2015	0.00	100.00	85.59	47.55	29.26	0.00
One Year Ago 9/8/2015	0.00	100.00	91.93	48.09	29.26	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

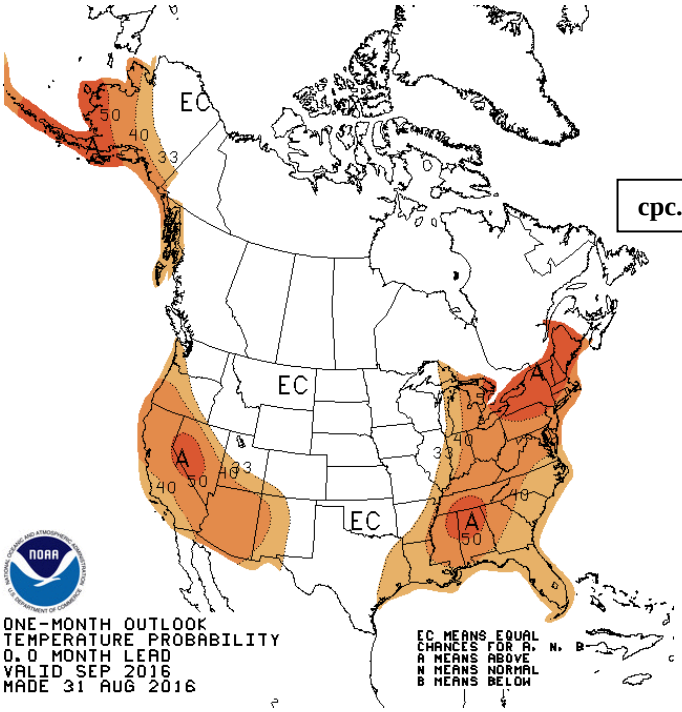
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

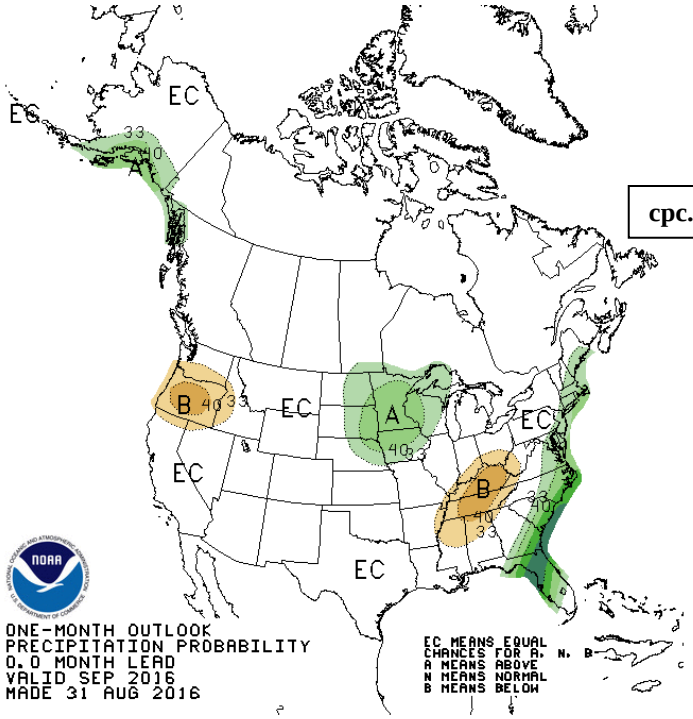
David Simeral

Western Regional Climate Center

http://droughtmonitor.unl.edu/



cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif



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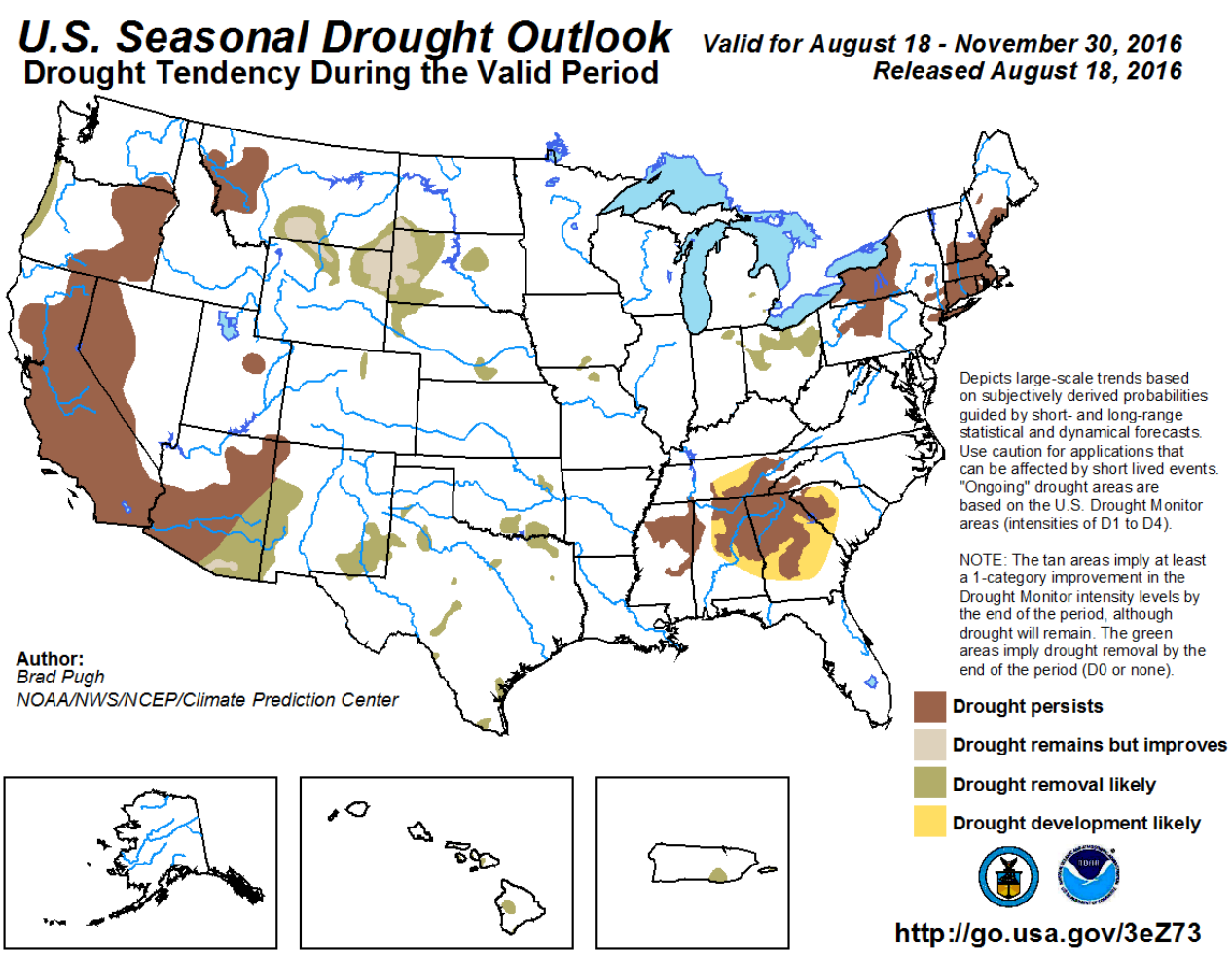

cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

cc:

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PIH Mets/HMT (pih.ops)

End

cbl